

Exhibit B



Large Loads – Impact on Grid Reliability and Overview of Revision Request Package

NPRR1191 and Related Revision Requests Workshop

August 16, 2023

Workshop Agenda

1. Welcome and Antitrust Admonition
2. Large Loads – Impact on Reliability
3. Overview of the Large Load Revision Request Package
4. Next Steps

Antitrust Admonition

To avoid raising concerns about antitrust liability, participants in ERCOT activities should refrain from proposing any action or measure that would exceed ERCOT's authority under federal or state law. For additional information, stakeholders should consult the Statement of Position on Antitrust Issues for Members of ERCOT Committees, Subcommittees, and Working Groups, which is posted on the ERCOT website.¹

Disclaimer

All presentations and materials submitted by Market Participants or any other Entity to ERCOT staff for this meeting are received and posted with the acknowledgement that the information will be considered public in accordance with the ERCOT Websites Content Management Operating Procedure.

¹The document is available at <http://www.ercot.com/about/governance/index.html>.



Large Loads – Impact on Grid Reliability

Improvements for the Reliable Integration of Large Loads

ERCOT, like many grids around the world, is seeing an unprecedented amount of larger Loads interconnecting. To serve these Loads reliably requires changes to traditional processes. ERCOT has proposed a set of changes to integrate these new Loads and enhance the overall reliability of the grid.

These changes include:

- A faster, more efficient interconnection process to meet the needs of these new Loads.
- Load forecasting improvements to capture the unique demand characteristics of larger Loads.
- Voltage ride-through standards to maintain grid resiliency during events.
- Ramp rate limits to mitigate negative impacts on Ancillary Service availability.
- A new Load category to reduce the need for Emergency Operations.

Faster Load Interconnection Process

Reliability Risk

New types of Large Loads want to interconnect in less than 2 years.

Impact

Traditional planning processes do not review this timeframe and cannot prepare the grid to serve this new Load reliably.

Proposed Solution

Implement a Large Load Interconnection study process to make it possible to interconnect new load reliably in less than 2 years.

Since January 2022, more than 2,700 MW (~5x city of Lubbock) of Load approved in the interim process representing 22 projects have been approved to energize in 2 years or less bypassing the established reliability process. Another 16,199 MW of proposed Load (55 projects) have requested energization dates on or before Dec 31, 2024.

Load Forecasting Enhancement

Reliability Risk

ERCOT cannot readily identify larger load facilities and has limited visibility into their sensitivity to price and other factors.

Impact

ERCOT is seeing greater load forecast error on extreme or unusual operating days when an accurate forecast is most critical.

Proposed Solution

Implement 4CP and price responsive demand forecasts and require Loads 25 MW or greater to provide additional information to ERCOT.

ERCOT has limited visibility into the location and consumption of all larger Loads. This has been evident during summer operations when high prices and 4CP response make industrial load usage difficult to forecast for upcoming days. Increased visibility into industrial load consumption would have also been useful during both Winter Storm Uri and Elliot, when larger Load usage was a critical forecasting input.

Voltage Ride-Through Standards

Reliability Risk

ERCOT has experienced multiple events in the last year where a significant amount of Large Load unexpectedly disconnected from the grid.

Impact

Large Load behavior can magnify the severity of grid events, increasing the negative impact to reliability.

Proposed Solution

Establish a voltage ride-through standard that applies to all Loads 75 MW or greater.

Multiple events have demonstrated new Large Loads are not always capable of remaining stable during voltage fluctuations. The most severe event occurred near Odessa at 3:50 AM on 12/7/22 when more than 1,600 MW of Load (including data centers, oil/gas load, and other industrial loads) unexpectedly disconnected from the grid due to a low-voltage fluctuation. System frequency increased to 60.235 Hz and did not return to normal for over 10 minutes. Large Loads can make a low-voltage event become a frequency control event.

Frequency Control Improvements

Reliability Risk

Large Loads can change their MW consumption rapidly enough to exhaust available Regulation service.

Impact

ERCOT eventually will need to buy what may become an infeasible quantity of Regulation service to maintain frequency stability. This could add significant costs to ratepayers.

Proposed Solution

Create a path so as many Large Loads as possible can participate as Controllable Load Resources (CLRs). Establish ramp-rate standards for Large Loads that are not CLRs.

Since January 2023, 49 SCED intervals have exceeded available Regulation due to rapid changes in Large Load consumption. The loss of available Regulation temporarily limits ERCOT's ability to control frequency. This was not an issue prior to the connection of the 2700 MW of Large Loads. Ramp rate limits on Large Loads not controlled by SCED will help mitigate depletion of Regulation by Large Loads.

Reducing Emergency Operations

Reliability Risk

Large Loads have exhibited inconsistent behavior during Resource scarcity events.

Impact

If ERCOT plans for expected Large Load response and the Load does not respond, it could drive the system into emergency conditions. If ERCOT plans for no response, it will increase consumer costs unnecessarily when the Load does respond.

Proposed Solution

Create a new Registered Curtailable Load category that ERCOT may curtail before shedding firm load.

In the last two years, ERCOT has acquired some information regarding Large Load behavior during periods of Resource scarcity. Experience shows inconsistent response from Large Load sites that should be expected to reduce consumption. ERCOT needs the capability to coordinate Large Load response before curtailment of firm Load is required. For example, if Large Loads had not voluntarily curtailed on June 20, 2023 ERCOT would have been forced into Emergency Operations.

Path Forward

- Large Loads with demand flexibility have the potential to be an important tool for maintaining grid reliability.
- For this flexibility to enhance rather than detract from grid reliability, it must be coordinated with generator dispatch. Participation of Large Load as CLR, where applicable, is a necessary step in meeting this need.
- Additional information collected from all larger Loads will enable ERCOT to improve its load forecasts and operational processes.
- ERCOT is committed to working with all stakeholders in a transparent manner to utilize the flexibility offered by some Large Loads to ensure the reliability of the grid for all customers.

List of recent Voltage Ride-Through events

